

Michigan Truck Safety Commission



Strategic Plan

2005 - 2007

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Introduction

Michigan Truck Safety Commission (MTSC)

In the mid-1980s, an anti-truck climate existed in Michigan. Problems such as passenger car/truck crashes, hours of service violations, load spillage and excessive speeding by commercial drivers led to this negative image of the industry. In response the Michigan Trucking Association, Michigan Brotherhood of Teamsters, Michigan State Police, Michigan Department of Transportation and the Michigan Legislature developed the legislation establishing the Michigan Truck Safety Commission.

Early discussions focused on increased enforcement. However, education and training emerged as focal points with research and enforcement as sidebars in the creation of the legislation. The Michigan Trucking Association and the state's trucking industry were committed to enhancing the education and safety training of truck drivers and agreed to support an increase in truck registration fees to accomplish that goal.

In 1988, the Michigan Legislature created the Michigan Truck Safety Commission (MTSC) with the enactment of Public Act 348 whose primary provisions were:

- Establishment of an 11-member Commission representing a cross section of transportation safety groups and individuals. Seven are appointed by the governor and four by state statute, all of which are public service positions.
- Development of a Truck Safety Fund.
- Expend truck safety funds to conduct truck driver safety education programs, encouraging, coordinating and administering grants for research and demonstration projects in truck driver safety education and conduct special enforcement programs within the Department of State Police, Motor Carrier Division.

Michigan State Police – Motor Carrier Division

For many years, two separate state agencies were the primary truck enforcement agencies: the Michigan Highway Department (now the Department of Transportation) and the Michigan Public Service Commission (now within the Department of Consumer and Industry Services.) The very first agency involved in regulating transportation in Michigan was the Railroad Commissioner, established in 1873. In 1917, the same year the Michigan State Police was created, the State Legislature replaced the Railroad Commission with the Michigan Public Utilities Commission, the predecessor of the Michigan Public Service Commission. The Utilities Commission began regulating the trucking industry in 1923 with less than 10 inspectors.

The Michigan Highway Department first hired Weighmasters and built permanent scale facilities in 1929. Weighmasters enforced only size and weight law. In 1968, the Weighmaster function of the Highway Department was transferred to the Michigan Public Service Commission by a Governor's Executive Order. In 1982, Gov. Milliken transferred the enforcement function, including the

personnel, of the Michigan Public Service Commission to the Michigan State Police, which created the Motor Carrier Division to administer the program. Motor Carrier Officers were given full police powers for the purpose of commercial vehicle enforcement including:

- Detection and apprehension of individuals who use commercial vehicles in their criminal activities.
- Investigators work with the trucking industry to detect commercial frauds and crime including drugs, insurance schemes and regulatory violations.
- Audits are performed at companies to determine compliance with driver qualifications, safety inspections and repairs.
- Hazardous Materials Officers not only enforce strict safety standards and regulations, they conduct training programs that provide up-to-date regulatory and safety information to business and industry leaders.
- Motor Carrier Officers serve as expert witnesses and are routinely called upon by other police agencies, courts and the industry to provide valuable insight and knowledge in crashes involving trucks.
- Each year Motor Carrier Members inspect more than 165 safety features on approximately 18,000 Michigan school buses.
- Motor Carrier Officers monitor commercial vehicle traffic to promote compliance and safe transit for the motoring public by enforcing speed and other hazardous violations.
- Experts at detecting unsafe or defective vehicles, officers perform thousands of comprehensive equipment inspections annually.
- Special border enforcement operations to preserve homeland security.

Michigan Center for Truck Safety

The Michigan Center for Truck Safety (MCTS) is responsible for the day-to-day operation of educational programs sponsored by the Michigan Truck Safety Commission. The Center is operated through a grant to the Michigan Trucking Association Educational Center, Inc. (MTA) and is housed at the MTA headquarters in Lansing.

The MCTS is a non-profit organization dedicated to increasing highway safety through safer truck travel. The Center does this by providing Michigan's trucking industry with a variety of **free** educational safety programs and services. The MCTS also provides the general motoring public information on how to share the road safely with trucks.

Strategic Plan Development

A Strategic Plan should define a system, organization, and process for managing the attributes of the road, the driver, and the vehicle to achieve the highest level of highway safety by integrating the work of disciplines and agencies involved. Heavy-truck crashes, especially those involving other vehicles, are likely to result in serious injury. Because heavy-truck crashes have a variety of causes, a comprehensive effort to reduce them must focus on a range of targets, including behavioral, environmental, and operational targets. ***It should be noted that preliminary indications from a Large Truck Crash Causation Study by the Federal Motor Carrier Safety Administration (FMCSA), due to be published in August 2005, indicate driver factors as ten times more prevalent than vehicle or environmental issues.***

Effective solutions will require broad-based cooperation and the participation of both public and private entities. The private sector, the trucking industry and the many motor carriers composing it play the most fundamental role of managing carrier compliance with regulations and implementing safety processes beyond compliance that further enhance carrier safety. Federal, state, and local governments also play essential roles, focusing largely on regulation and enforcement, but also involving engineering and educational initiatives.

National Strategic Planning

In 1998, the American Association of State Highway and Transportation Officials (AASHTO) approved its Strategic Highway Safety Plan, which was developed by the AASHTO Standing Committee for Highway Traffic Safety with the assistance of the Federal Highway Administration, the National Highway Traffic Safety Administration, and the Transportation Research Board Committee on Transportation Safety Management. The plan includes strategies in 22 key emphasis areas that affect highway safety. The plan's goal is to reduce the annual number of highway deaths by 5,000 to 7,000. Each of the 22 emphasis areas includes strategies and an outline of what is needed to implement each strategy. One of those emphasis areas is commercial vehicle safety.

NCHRP Project 17-18(3) is developing a series of guides to assist state and local agencies in reducing injuries and fatalities in targeted areas. The guides correspond to the emphasis areas outlined in the AASHTO Strategic Highway Safety Plan. Each guide includes a brief introduction, a general description of the problem, the strategies/countermeasures to address the problem, and a model implementation process. (<http://safety.transportation.org/guides.aspx>). Volume 13 of this series is a "Guide for Reducing Collisions Involving Heavy Trucks."

National Truck Crash Data: Nationally one of every eight people who die on the nation's roadways is killed in a crash involving a heavy truck. Most are occupants of other vehicles or non-occupants, such as pedestrians and bicyclists. Another 130,000 people are injured in crashes with heavy trucks. Over the last two decades truck involvement in fatal crashes has declined by more than 50% as a function of vehicle miles traveled, from 5.0 per 100 million VMT in 1980 to 2.1 in 2001. Nevertheless, the rate is still much higher than the 1.3 rate for passenger vehicles. While heavy trucks are over-represented in fatal crashes, analysis of driver-related factors in crashes between large trucks and passenger vehicles indicates that passenger vehicle driver errors or other driver factors are cited in more than two-thirds of the crashes.

State Strategic Planning

In Michigan, the development of a statewide and comprehensive strategic highway safety plan was commissioned by the Governor's Traffic Safety Advisory Commission (GTSAC) in October 2004. The GTSAC consists of the Governor (or a designee), the Directors (or their designees) of the Departments of Community Health, Education, State, State Police, and Transportation, the Office of Highway Safety Planning, the Office of Services to the Aging, and three local representatives from the county, city, and township level.

The GTSAC formed a comprehensive working group consisting of a cross section of the traffic safety community in Michigan, and arrived at twelve emphasis areas, one of which is commercial vehicle safety. Appropriately, the Michigan Truck Safety Commission has been identified as the entity to address commercial vehicle safety issues for Michigan and also serve as the "Action Team" to address those issues within the GTSAC. Consequently, this plan serves as both the MTSC Strategic Plan and as the Action Plan for the Commercial Vehicle Safety Action Team of the GTSAC.

For development of this strategic plan, issues and strategies from the national and state agenda were carried forward into the Michigan plan, as well as other issues and strategies not mentioned in the national plan.

State Truck Crash Data: In Michigan in 2004, there were 16,696 Commercial Vehicle involved (CMV) reported traffic crashes, 3,040 injuries, and 129 fatalities. CMV-involved crashes and injuries make up a fairly small percentage of the overall crashes and injuries, 4.5% and 3.0% respectively. CMV involved fatalities though, represent over 11% of fatalities. Since 1998 even though the total number of crashes, injuries and fatalities has declined, the percentage they represent of the total has remained constant. From 2000 to 2004 there has been little change in the number of commercial vehicle registrations but a 7% increase in the number of commercial driver licenses issued.

Mission

To improve truck safety by providing Michigan's trucking industry and citizens of Michigan with effective educational programs, and by addressing significant truck safety issues.

Vision

All roadway users arrive safely at their destinations.

Long-Term Objectives

- Increase the CMV safety belt usage a minimum of 10% by 2008
- Decrease the percentage of CMV-involved fatal crashes in relation to total fatal crashes from 11.5% to under 6% by 2008
- Decrease the percentage of CMV involved fatalities per 100 million commercial vehicle miles traveled (CVMT) from 1.85 in 2004 to under 1.5 by 2008
- Decrease the percentage of CMV involved KA Injuries per 100 million commercial vehicle miles traveled (CVMT) from 2.51 in 2004 to under 2.0 by 2008

Emphasis Areas

To support the mission, vision and objectives of the MTSC strategic plan, data driven emphasis areas and strategies were identified. These emphasis areas and strategies were derived from the NCHRP Report 500 Series Implementation Guide-Volume 13 "Guide for Reducing Collisions Involving Heavy Trucks."

(<http://safety.transportation.org/guides.aspx>)

- Reduce fatigue-related crashes
- Strengthen the CDL program
- Increase knowledge on how CMV and cars can 'share the road'
- Improve maintenance of heavy trucks
- Identify and correct unsafe roadway infrastructure and operational characteristics
- Improve and enhance truck safety data
- Promote industry safety initiatives

Measures of Impact and Evaluation

In developing and implementing strategies to address each of the emphasis areas, the Commission seeks to determine the level of impact and success of efforts and resources expended. The Commission expects to:

- Secure baseline data from relevant sources to determine critical compliance and driver performance issues as well as the extent of safety management programs in the state
- Develop programming based on appropriate data to address emerging compliance, driver performance, safety management and CMV safety issues
- Track and report on participation levels in compliance, driver training and safety management programs to assess impact and to provide a basis for follow-up efforts
- Develop relevant measures of activity and impact, and gather and use such data as the basis for new program development and requests for continuing funding

The Issue: Commercial Motor Vehicle Safety

Drivers of heavy trucks appear to engage in fewer unsafe driving practices than do drivers in general. Analysis of driver-related factors in crashes between large trucks and passenger vehicles indicates that *passenger* vehicle driver errors or other driver factors are cited in more than two-thirds of these crashes, whereas truck driver errors are cited in less than one-third (FHWA, 1999c; Blower, 1999). Studies of vehicle highway speeds in North America indicate that drivers of heavy vehicles generally exceed posted speed limits less often, and by smaller margins, than drivers of light vehicles (Tardif, 2003; NHTSA, 1991). In addition, crash-involved truck drivers are much less likely than passenger vehicle drivers to drive under the influence of alcohol.

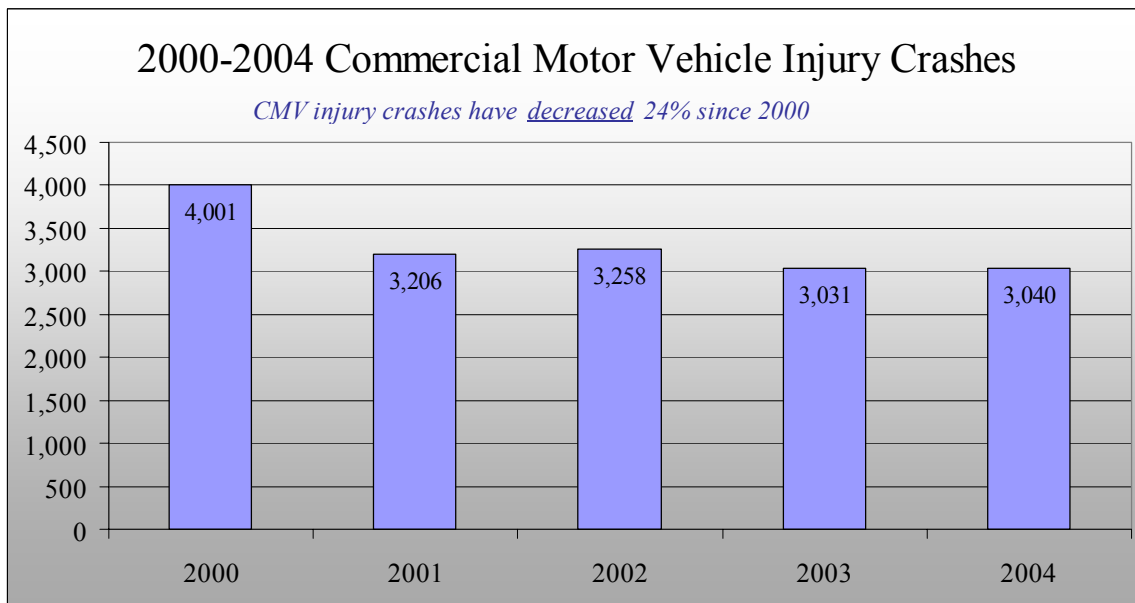
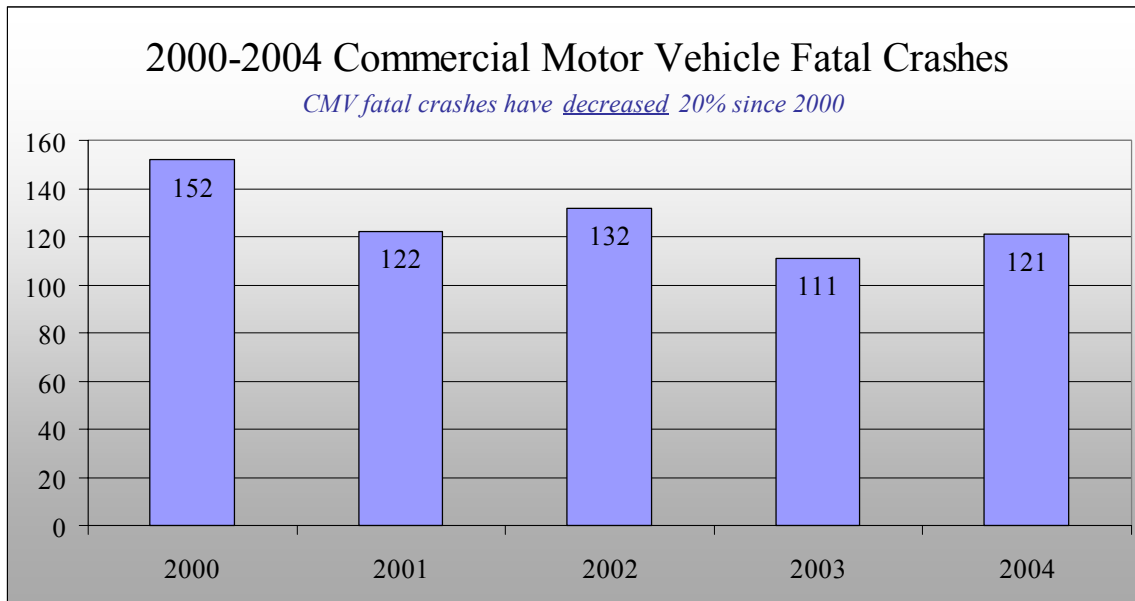
Even though truck drivers appear to be better drivers than those of other vehicles, truck crashes are more likely to result in a fatality because of the vehicle's size, weight, and stiffness. In 1999, heavy trucks accounted for 4 percent of all registered vehicles and 8 percent of total vehicle-miles traveled, but they accounted for 9 percent of all vehicles involved in fatal crashes (NHTSA, 2001). Compared with passenger cars, when a heavy truck is involved in a crash, it is about 2.6 times as likely to result in a fatality. The average overall human and property "harm" in large-truck crashes is about twice the average of crashes involving only passenger vehicles (Wang et al., 1999).

Michigan 2004 CMV Involved fatal truck crash overview

- Less than 10% of all CMV involved fatalities were the actual truck driver
- Of the truck drivers killed 25% were not belted, 37.5% were belted and 37.5% it was unknown if the driver was belted or not
- Car Driver at Fault; most common scenarios:
 - ✓ Crossing median/center line, hitting CMV
 - ✓ Running red light/stop sign, hitting CMV
 - ✓ Lost control on freeway
 - ✓ Rear ending stopped CMV (construction/traffic or at traffic light/stop sign)

Other statistics from 2004 fatal CMV crashes:

- 10 involved pedestrians and 2 involved bicycles
- 6 crossed the median prior to collision
- 3 involved jack-knives and 2 ran off the road
- 4 involved buses over 15 passengers and 1 involved a 9-15 passenger school bus
- 8 involved tractor/doubles
- 67 were tractor/semi-trailer and 49 were van trailers
- 52 were unknown CMV type
- 3 auto transporters
- 13 cargo tanks and 2 garbage haulers
- 5 cement mixers and 12 dump vehicles
- 19 flatbeds
- 92 had Michigan CMV plates and 10 had HM placards



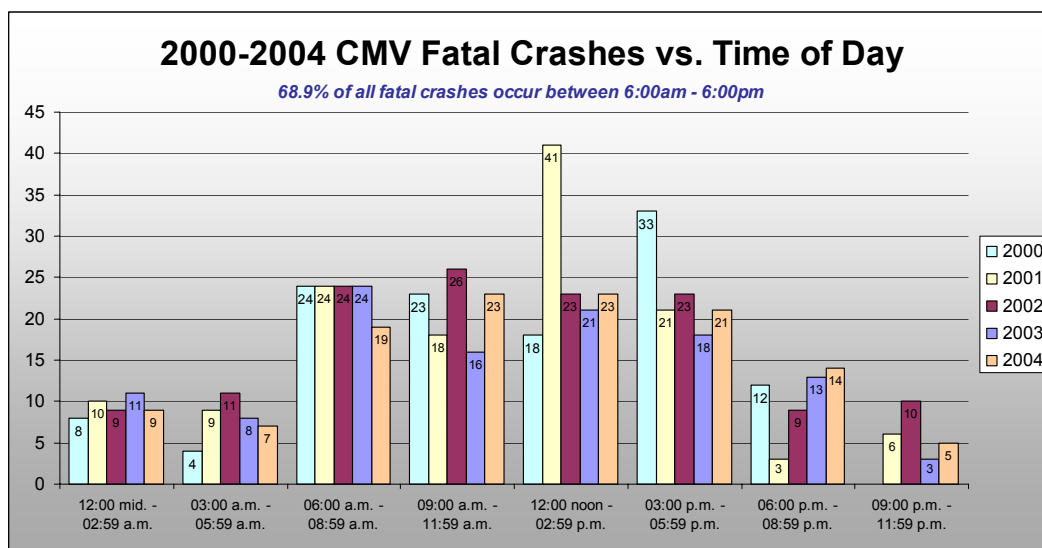
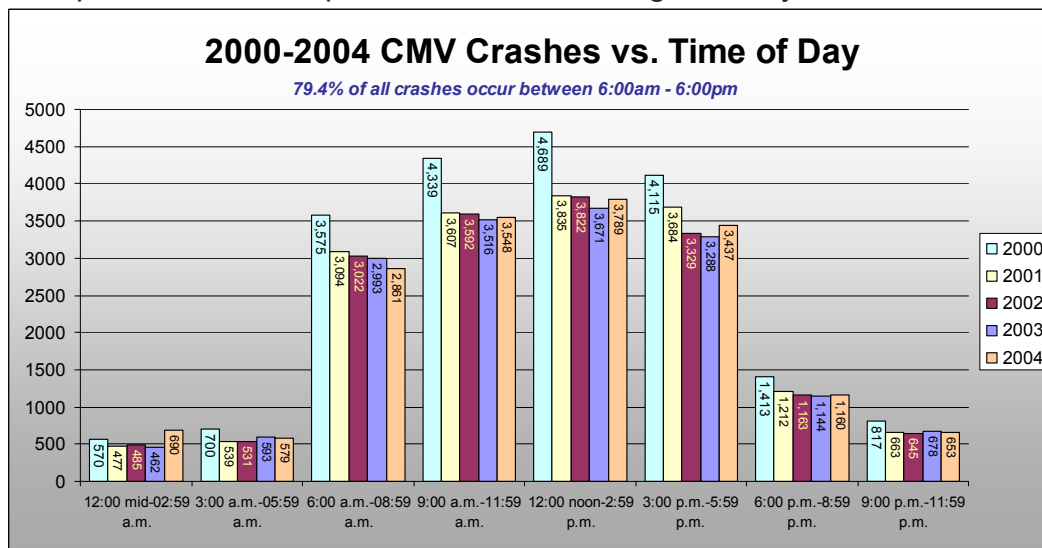
Reduce Fatigue-related Crashes

Background

In a major national forum on truck safety, the primary safety issue identified was driver fatigue. The reasons for driver fatigue are many, and only some of them may be addressed through state programs. However, states can take steps to increase the efficiency of use of existing parking space for drivers needing rest and/or required to stop driving because of hours-of-service regulations; states can also modify existing space and create new space to provide additional parking facilities. Rumble strips can alert tired drivers that they are leaving the traffic lane.

Model Strategies:

- ❖ Increase efficiency of use of existing parking spaces
- ❖ Create additional parking spaces
- ❖ Incorporate rumble strips into new and existing roadways



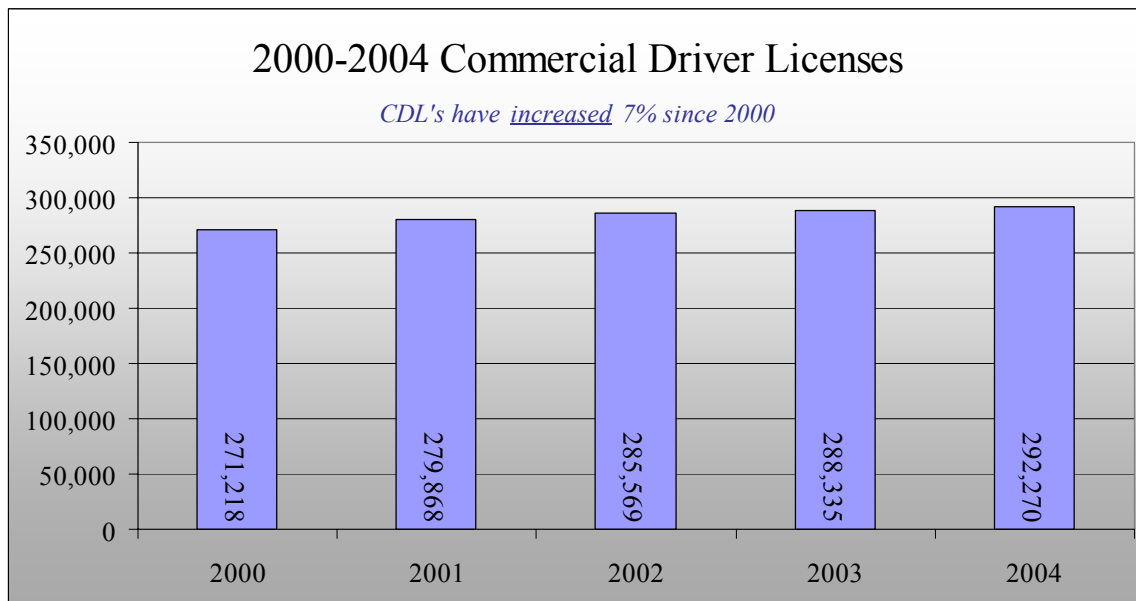
Strengthen CDL Programs

Background

The commercial driver's license (CDL) established national standards for acquiring a license to operate heavy trucks. It has been fully implemented since April 1992. Although the CDL has achieved major improvements, e.g., reducing the problem of multiple licensing and consolidating driver history information, problems remain. The administration of the test can be improved, and measures can be taken to reduce fraud and improve the quality of both state and third-party testers.

Model Strategies:

- ❖ Improve test administration for the CDL
- ❖ Increase fraud detection by state and third-party testers
- ❖ Increase compliance by truck drivers and firms with applicable statutes and regulations
- ❖ Improve driver performance through education and training
- ❖ Implement S.T.E.T. operations in high-risk areas to improve compliance



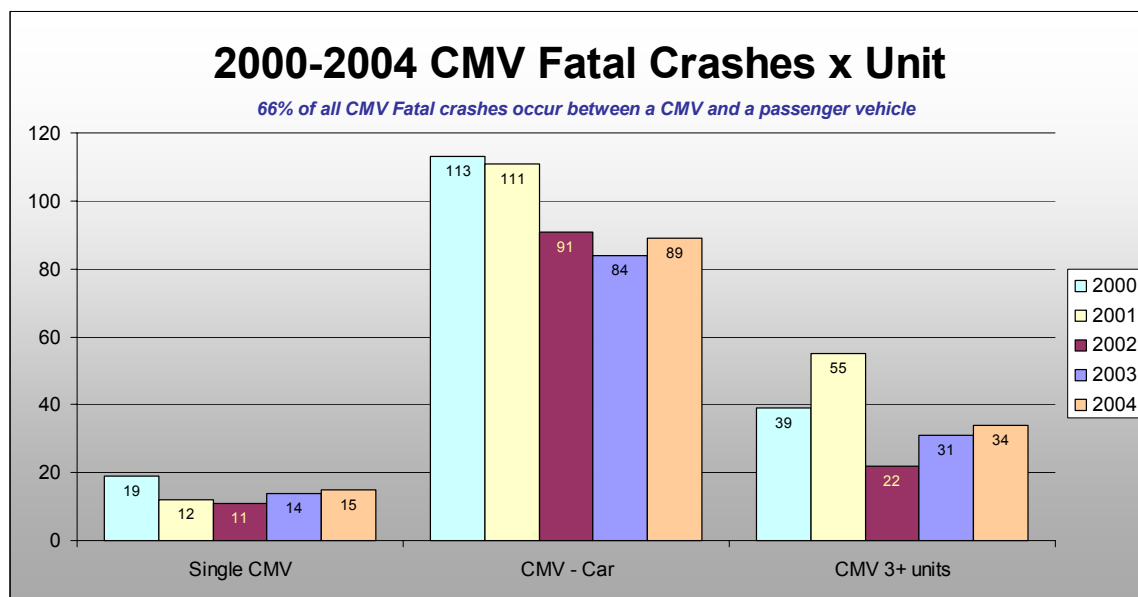
Increase knowledge and Education (“share the road”)

Background

Most truck fatalities occur in multi-vehicle crashes, and in 2000, 78% of all heavy truck-related fatalities occurred to occupants of the other vehicles. In crashes involving a heavy truck and a passenger vehicle (80% of all fatal truck crashes), it appears that the principle culpability most often lies with the driver of the other vehicle. Consequently, some effort needs to focus on drivers to reduce truck fatalities. Drivers need better information on how to share the road with large trucks.

Model Strategies:

- ❖ Incorporate Share the Road information into driver materials
- ❖ Promulgate Share the Road information through print and electronic media
- ❖ Continue to participate actively in the GTSAC to insure consideration of truck safety issues
- ❖ Develop cooperative programs and partnerships with relevant other state departments, e.g., MDOT, MPSC, OHSP, SOS and others, to improve information sharing and understanding of the collective mission of truck safety
- ❖ Utilize partnerships with associations, unions and others as appropriate to reach targeted audiences and increase participation in educational and training programs
- ❖ Increase the level of attention to truck safety issues in public and private driver education programs used across the state as well as in the driver education test used by the Secretary of State



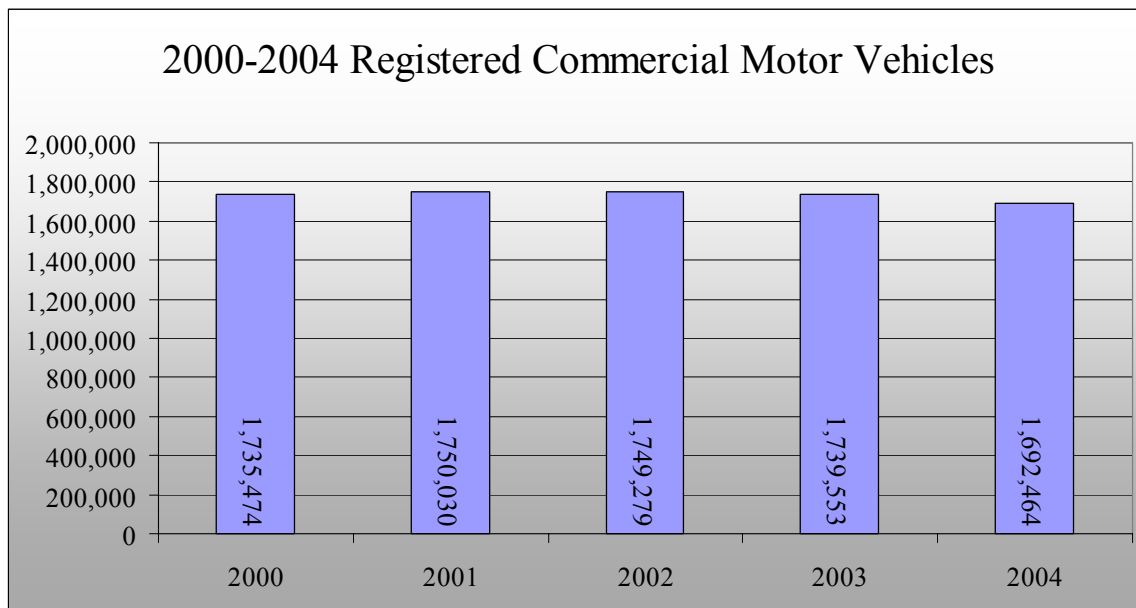
Improve Maintenance of Heavy Trucks

Background

Heavy trucks generally accumulate high mileage. In 2000, combination trucks averaged almost 65,000 miles, compared with almost 12,000 for passenger vehicles. State vehicle inspection programs (and not all states have them) are designed for passenger cars and usually require inspection only once a year. Large trucks need to be inspected much more frequently. Roadside inspections invariably identify sizeable proportions of trucks that need to be taken out of service immediately because they are considered too hazardous to continue operating. In-depth inspection of trucks in fatal crashes indicates that about one third would have been removed from service if inspected just prior to the crash.

Model Strategies:

- ❖ Increase and strengthen truck maintenance programs and inspection performance
- ❖ Conduct post crash inspections to identify major problems and problem conditions



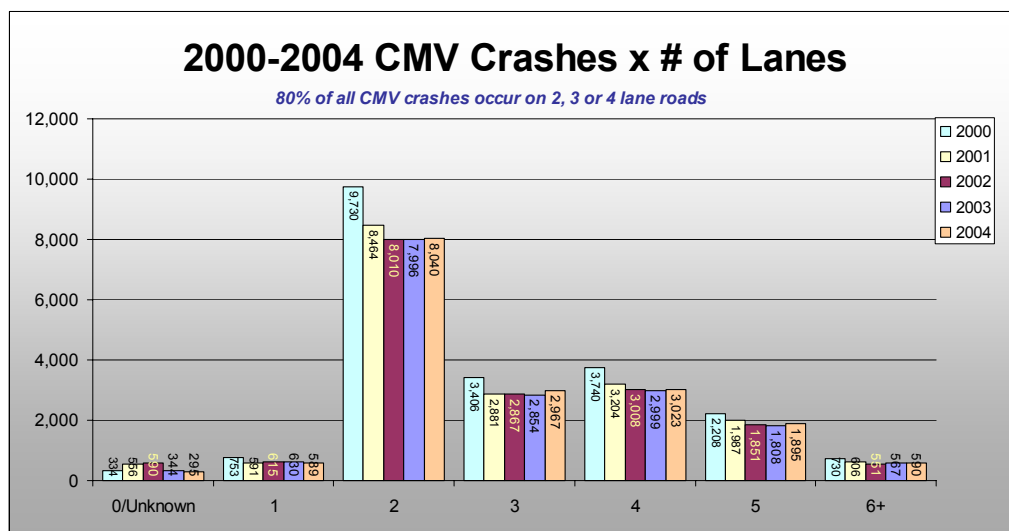
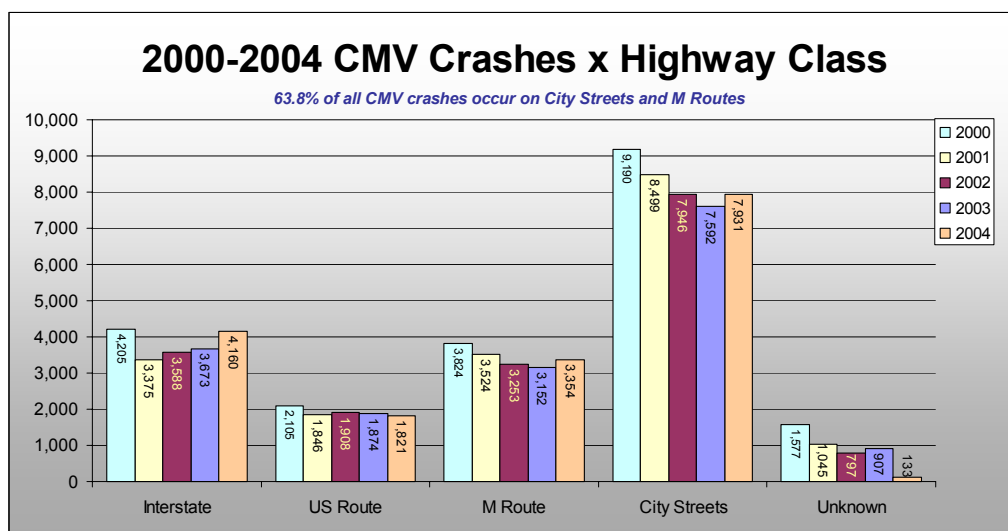
Identify and correct unsafe roadway infrastructure and operational characteristics

Background

Highway configuration can create hazards for some large trucks. Programs to identify and correct highway segments that pose significant hazards to trucks can reduce crashes. While making changes to the highway is costly, providing information to drivers concerning upcoming hazards and providing real-time feedback on excessive speed for safe maneuvering can be implemented at relatively low cost.

Model Strategies:

- ❖ Identify and treat truck crash roadway segments—signing
- ❖ Install interactive truck rollover signing
- ❖ Modify speed limits and increase enforcement to reduce truck and other vehicle speeds
- ❖ Implement S.T.E.T. operations in high-risk areas to improve compliance



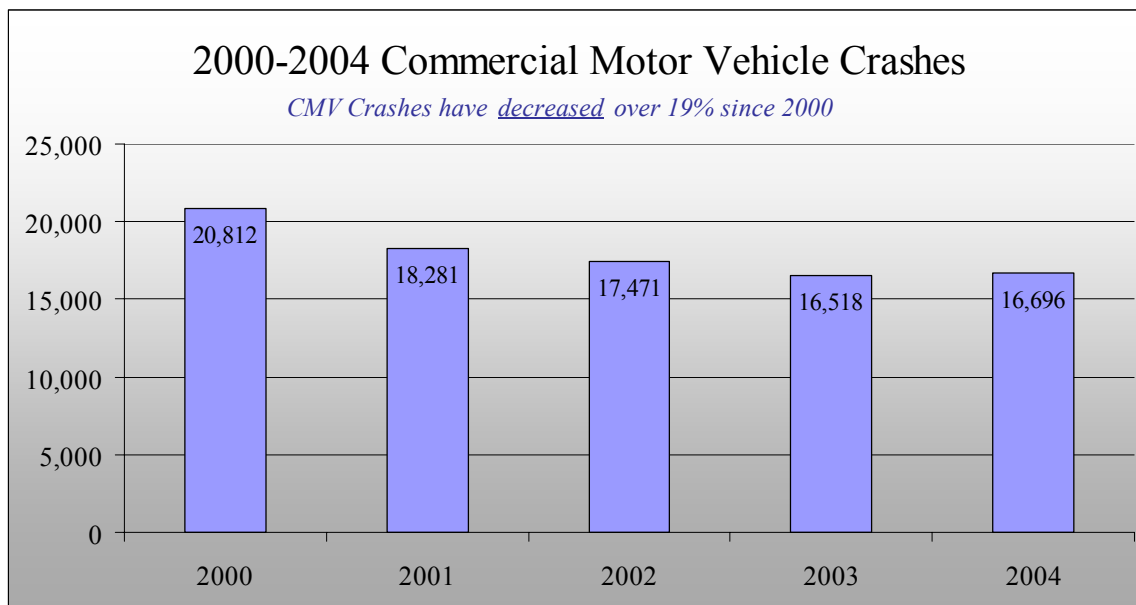
Improve and Enhance Truck Safety Data

Background

Good data are the backbone to any successful highway safety program. Timely and accurate data are required to identify problems (with both vehicles and drivers), establish priorities, design interventions, evaluate countermeasures, and detect emerging problems. Important data on heavy trucks and their operators come from law enforcement, the judicial system, driver records, vehicle registration, and motor carrier records. Rapid entry and compilation of such data can greatly improve the detection of problems and enable immediate intervention.

Model Strategies:

- ❖ Increase the timeliness, accuracy, and completeness of truck safety data
- ❖ Utilize heavy-truck crash data more effectively in decision-making on supported programs
- ❖ Conduct periodic analyses of crash data to provide longitudinal information on crashes
- ❖ Benchmark Michigan against other states with respect to crash data and truck safety



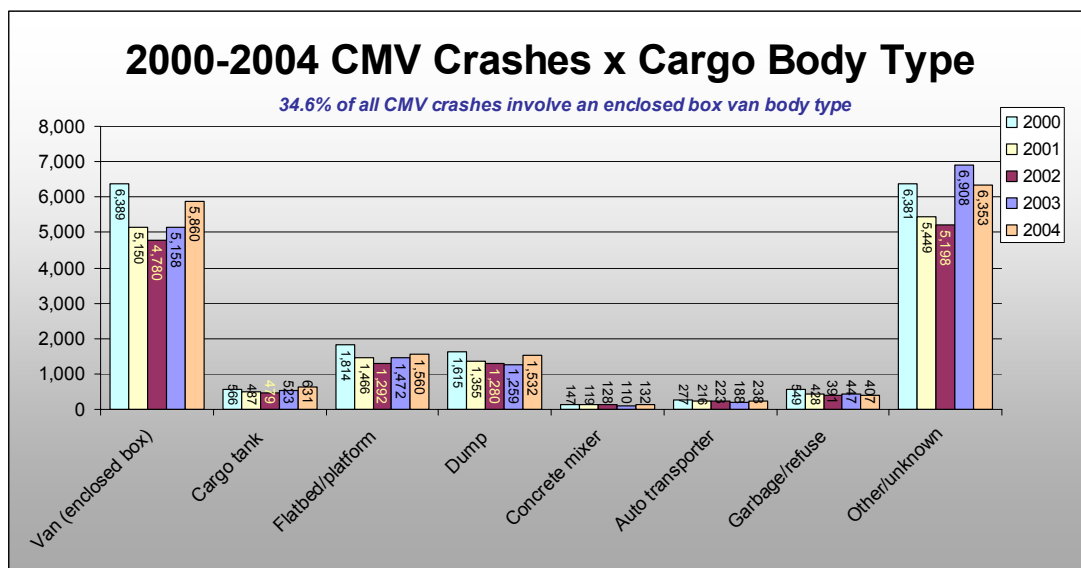
Promote Industry Safety Initiatives

Background

Unlike the general population of drivers and vehicles, commercial drivers and trucks operate under management supervision. Effective supervision of drivers and the vehicle fleet requires active and systematic management to ensure compliance with all federal and state regulations. Moreover, regulatory compliance is not the only goal. Many safety management activities of the most safety-conscious fleets go well beyond minimum compliance requirements. States and motor carrier industry leaders can work together to provide consultation to carrier safety managers on best practices to ensure both regulatory compliance and safety practices above and beyond compliance. One practice to enhance fleet safety above minimum required levels is the purchase and use of truck safety technologies (such as improved brakes) and advanced technologies (such as collision avoidance warning systems).

Model Strategies:

- ❖ Perform safety consultations with carrier safety management
- ❖ Promote development and deployment of truck safety technologies
- ❖ Strengthen safety management programs in targeted firms
- ❖ Increase the awareness of public officials and of the larger public about truck safety issues and programs
- ❖ Incorporate new technologies into driver training programs as appropriate and cost-effective
- ❖ Implement safety management audits with critical firms such as small carriers, intrastate carriers, and firms that use trucks as part of their business
- ❖ Develop information to demonstrate that “safety pays” for use in training and informational materials
- ❖ Identify “best management practices” based on the recent FMCSA survey as part of new safety management programs
- ❖ Publicize the existence and the activities of the MTSC through an effective communications strategy



ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
EMS	Emergency Management System
FHWA	Federal Highway Administration
GIS	Geographic Information System
GPS	Global Positioning System
GTSAC	Governor's Traffic Safety Advisory Commission
ITE	Institute of Transportation Engineers
MCTS	Michigan Center for Truck Safety
MDE	Michigan Department of Education
MDOS	Michigan Department of State
MDOT	Michigan Department of Transportation
MSP	Michigan Department of State Police
MTSC	Michigan Truck Safety Commission
NCHRP	National Cooperative Highway Research Program
NHI	National Highway Institute
OHSP	Office of Highway Safety Planning

Acknowledgements

The development of this strategic safety plan was completed by the Michigan Truck Safety Commission (MTSC) in September 2005. The MTSC consists of a diverse group of commissioners and at large traffic safety professional members including representatives from:

**Michigan Department of State
Michigan Department of State Police, Motor Carrier Division
Michigan Department of Transportation
Michigan Office of Highway Safety Planning
Kettering University
Foster, Swift, Collins and Smith
Michigan Teamsters
Lansing Community College
Alvan Motor Freight, Inc.
Publicom, Inc.
Group Associates Inc.**

All parts as described within this plan are necessary, but there is flexibility to customize the structure and process according to external and internal factors. It is anticipated that the plan periodically will be updated and otherwise revised.